J. L. BERRY.

Insertible Saw-Teeth.

No. 207,003. Patented Aug. 13, 1878.

Fig. 1.

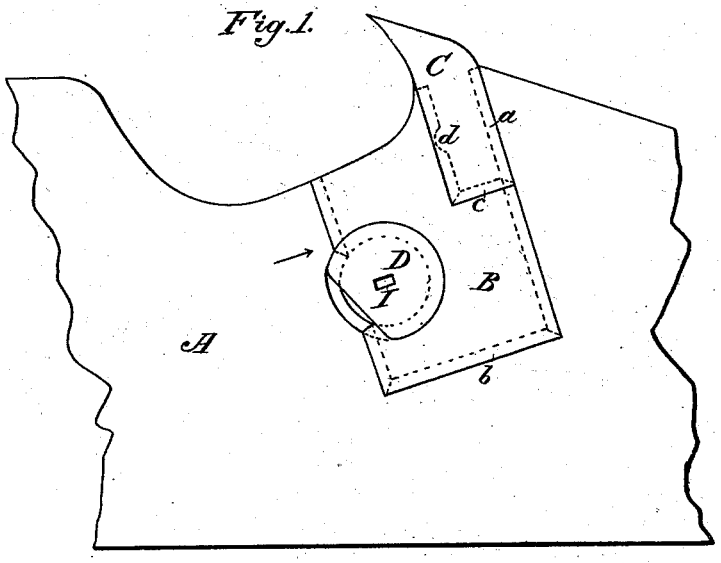


Fig. 2.

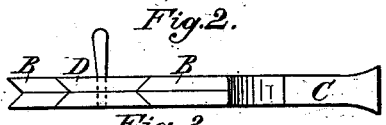


Fig. 3.

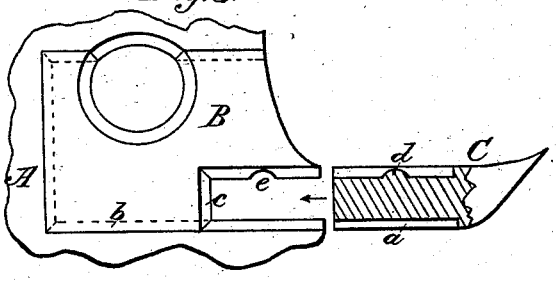
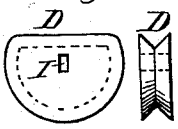


Fig. 4.



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JAMES L. BERRY, OF SAGINAW, MICHIGAN.

IMPROVEMENT IN INSERTIBLE SAW-TEETH.

Specification forming part of Letters Patent No. **207,003**, dated August 13, 1878; application filed July 22, 1878.

To all whom it may concern:

Be it known that I, JAMES L. BERRY, of the city of Saginaw, in the State of Michigan, have invented an Improvement in Insertible Saw-Teeth, whereby they may be readily removed and replaced in such a manner as to prevent all injurious strain upon the saw-blade; and the invention consists in the employment of a retaining-yoke or locking-plate of peculiar construction, and a grooved cam or circular key that serves to hold the locking-plate in place in the saw-plate, the cam occupying a circular hole or opening, which is formed mainly in the locking-plate and the remainder in the saw-plate, together with certain peculiarities of form in the tooth, and in the recesses in the saw and locking-plate into which it is inserted, all as will be hereinafter fully described, and then specifically pointed out in the claims.

In the drawing, Figure 1 is a side view of a piece of a saw-plate with a tooth inserted and secured therein. Fig. 2 is an edge view of the tooth-locking plate and circular cam, looking in the direction of the arrow in Fig. 1. Fig. 3 is a side view of the saw-plate with the locking-plate inserted and saw-tooth and cam removed. Fig. 4 shows a detailed view of the circular cam or wedge.

In the drawings, A represents a part of the blade of a circular saw; B, the yoke or locking-plate for holding the tooth C. The tooth is expanded or swaged at its point so that it will cut a kerf wide enough to clear the saw-plate, thus preventing friction and the consequent heating of the plate.

The back side, *a*, of the tooth C, which may be straight, or nearly so, is furnished with a triangular or V-shaped groove, which extends around its lower end and up its front side as far as the top edge of the locking-plate B, thus giving it a firm seat upon the triangular tongue *b* formed upon the edge of the recess in the saw-plate, and also in the recess formed in the locking-plate.

The front edge of the tooth presents a straight, or nearly straight, outline, and is provided in its triangular groove with a convex lug or hook, *d*, made to fit the recess *e* formed in the V-shaped edge of the locking-plate, to receive it, so as to hold the tooth securely in position and prevent it from becoming loose when in use.

The front or cutting portion of the tooth is made concave or gouge-shaped, for the purpose of cutting more easily, smoothly, and with greater facility, at the same time requiring less power to operate the saw.

The locking-plate or yoke B is adapted to fit closely into the recess or opening made in the saw-blade to receive it. The bottom of this recess, and also its sides, are straight, as shown, and provided with V-shaped edges or triangular tongues, which fit into the triangular or V-shaped grooves formed upon the sides and end of the locking-plate B. An abutment or shoulder, *c*, is formed in one side of the locking-plate to receive the tooth and to serve as a support for the tooth against the thrust of the cut.

The cam D (shown in Fig. 4) is provided with a V-shaped groove adapted to fith the V-shaped tongue formed upon the edges of the opening made to receive it. This cam fits and turns in a circular cavity formed mostly in the locking-plate B and partly in the saw-plate A. The periphery of the cam is circular at the outer sides about two-thirds around, more or less, and upon one side is flat with a grooved edge, which, when the cam is in position to allow the insertion or removal of the locking-plate and tooth, is straight with the side of the locking-plate B. After the locking-plate and tooth are inserted, and the cam given a quarter turn or more, the yoke and tooth are firmly and securely fastened in place. A key-hole, I, is formed in cam D to receive the end of a key, by which the cam is turned when it becomes necessary to withdraw the locking-plate and tooth, or to secure the same again in position. The top part of the locking-plate is curved to correspond to the throat of the tooth.

Hitherto the greatest objection to inserted teeth has been the tendency they have to strain the saw when they are held in place by wedges or rivets, which must, if tight enough to retain the tooth, exert a great expansive force upon the periphery of the saw-blade, causing it to be affected by such changes in temperature as

are likely to occur at any time when the saw is in use, causing the saw to buckle. Thus, by adding to the friction, the saw becomes liable to deflect from its direct course through the lumber. In my saw these difficulties are overcome, and it should be understood that although the locking-plate, tooth, and cam fit accurately to their places, and with sufficient tightness to prevent displacement, no such force is required to introduce them as can affect the integrity of the blade.

I claim as my invention—

The combination of locking-plate B, provided with abutment *c* and recess *e*, tooth C, having lug or hook *d*, adapted to fit the recess *e*, with the circular grooved cam D and saw-plate A, substantially in the manner and for the purpose specified.

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In presence of—

WM. A. CLARK,

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